A Word or Two

ON

MEDICAL EDUCATION:

AND
A HINT OR TWO FOR THOSE WHO THINK
IT NEEDS REFORMING.

BY
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"SCIENCE is his forte, omniscience is his foible." This was spoken by one well able to instruct mankind; and with such a lucky way of doing it, that he could wrap up wisdom in a witticism. And this was one of the wisest and wittiest things he ever said. He aimed it at some individual, and perhaps hit him and made him smart. Had he aimed it at our profession, would he have hit it? Perhaps he would; and if he had, we should only have laughed at it. For crowds keep one another in countenance where individuals feel sharply.

The Profession of Medicine, in itself and in the things pertaining to it, is running over with knowledge. The studies proper, preparatory, and collateral to it, are enormous. There are given us things to see which for their minuteness make our eyes crack; and things to understand which for their vastness and infinitude, as they come pouring in upon our minds, make us cry out, "Hold, enough!" Well may they, small and great, all so generously forced upon us in the way of educational culture, turn us poor physicians to sadness, when we think of the return the world may expect at our hands. "*Beneficia eousque læta sunt dum videntur exsolvi posse; ubi multum anteveniēre pro gratiā odium redditur.*" (*Tacit. Ann.*, iv, 18.) Benefits give pleasure as long as they seem within the possibility of repayment; when they have gone much beyond it, dislike takes the place of gratitude. Is not the medical profession at this day accumulating scientific obligations upon itself, which it can never repay in any tangible current coin of usefulness either to itself or to the world?

Having been a good long time physician to a large hospital, I was in the way to see how medical men might be made or marred in the training. So noting or fancying some extravagances in the course of their education laid down by authority, and thinking they boded some harm to the profession, I presumed to bear my moderate testimony against them. This was more than a quarter of a century ago. But my voice was a feeble one. It was no match at all for the edicts of halls, colleges, and institutions, new and old, which were rivalling one another in the ruinous amount of taxation they levied upon the time and thought of medical students, with their hundreds and hundreds of lectures sentenced and inflicted upon them without mercy. At length, however, I am told that our rulers are going to revise their taxation papers, and make their educational imposts with some regard to what their subjects can bear and can afford. Some public bodies, upon a retrospect of this quarter of a century or more, have

come to find out and proclaim their error, and are honestly bent upon repairing it. And they shall not want my voice, though now much more feeble than ever, for their encouragement and congratulation.

There is no doubt whatever that the grievance has been a real and serious one, and that the more thoughtful students and the best and more experienced teachers and practitioners of medicine and surgery have been convinced in their own minds that it was so, even for more than a quarter of a century.

It is now two and twenty years since I ceased to be physician to St. Bartholomew's Hospital, and it was a few years before that time, that I had a most interesting conversation with two medical students. They possessed the better order of minds, and had devoted to their professional education at St. Bartholomew's three years with great applause. The day for the annual award of prizes was just passed, and they had swept away between them all of any account and credit. On the following day, they came to me both together, begging to be told how they were to learn their profession. This was the simple way in which they put the question to me. There was no mock humility in it. Their look and manner were much too serious for me to suspect anything of the kind. Thus the matter stood with them upon their own shewing. During three whole years they had been hard at work upon all that lectures and museums could teach them. And verily they had thus far their reward. But they had utterly neglected the wards of the hospital. This was their own honest confession and regret. Their avowed temptation and excuse were the *éclat* that awaited them, when they returned into the country, from the distinctions they had gained.

Here are two right headed, accomplished, students, in the hour of their triumph, convinced that thus far they had not gone the right way to work for making themselves good practitioners.

Ten or a dozen years ago, I was present at the annual celebration of one of our medical schools. The distribution of the prizes had already begun, when an eminent member of our profession came in, and, finding a place vacant near me, he took it and sat down, and looked over the printed list of successful candidates which I held in my hand. Whereupon he exclaimed, "Fifty distinguished students! why, they will all be ruined!" He to whom I allude was then our best living example of science and practical experience combined in their just proportions. In him they had done all that they could do for professional success, and he was looked upon by the world as well deserving the high position which he held. He held it without envy. Moreover, he had been a teacher. Now his words need not be taken at the full of what their literal force will bear. But at least they meant this: that the system under which the fifty medical students had gained their present credit was a wrong system in itself, and that so they would find it in the long run.

Take, then, Sir Benjamin Brodie—for he was the man to whom I allude—to represent the best and most experienced of teachers and practitioners, and take the two students who have been mentioned to represent the more thoughtful of their class, and we have the sober judgment of learners, teachers, and

practitioners, that there has been something radically unsound in the medical education prescribed by authority for more than a quarter of a century.

I often think of my profession and its fortunes as of a poor man with a crowd of rich and noble relations. He thinks surely they must help him in the world. And so he cultivates them assiduously; and perhaps they are well enough disposed towards him. But then they are not constantly taking him by the hand, and lifting him over the rough places of life; and simply because they cannot.* The truth is, they do not understand his daily objects; and if they were to meddle with them, they would only mar them. Perhaps, however, they may render the poor fellow good service every now and then by chance. Besides he has always the credit of belonging to them; and that is something as the world goes. But let him beware of that very common evil among us, the vanity of large acquaintance; of having, or affecting to have, an intimacy with everybody worth knowing. It is a vanity not fit for all men to indulge in. All cannot afford the expense of time and trouble required to keep it up.

Now here are real truths signified, whether my parabolical mode of putting them be wise or foolish; truths in which our profession is concerned, and would do well to consider. There is nothing honest or of good report in the whole world, nothing of scientific truth or of high speculation, morally and mentally, with which medicine does not claim legitimate kindred. But then there are cunning genealogists among us who would make out the links of kindred to be surer and closer than they are, and the rest of us acquiesce for the glory of the thing.

There is not a more difficult problem in the world than the education for a particular profession. In universities, so that the things taught be good in themselves, education may be as miscellaneous and omnifarious and even as redundant as you please. The object is to rouse the mind and let it make acquaintance with its powers and inclinations, so that it may judge of its own natural fitness by what it is able to do the best. In universities, education is for all professions and for all callings. But when you come to the particular profession or calling, whatever it may be, and seek to educate for it, you must draw to a point, and become discriminate and eclectic, and, above all, very fearful and suspicious of redundancy and excess, especially if it be the medical profession with which you have to do.

Now what is this medical profession? It is the art how to treat, cure, and minister all possible relief to men, women, and children, when they have come to harm from disease, accident, or any other adversity. This is the core and kernel of the whole matter. And with this strictly and restrictively in view, a sort of magistracy was given to certain bodies over medical education for the public good. It was empowered to settle, first, the course of training indispensable for all who would practise medicine and surgery; secondly, to test by sufficient examination, one by one, the competency of all, before they enter it: to tell them how they are to fit themselves, and then tell the world who are fit.

Here are two about as delicate and ticklish problems as can well be conceived; and one can plainly see that in both of them the temptation would be to err on the side of excess and in things extrinsic: an

error which, of all professions in the world, ours would least bear with impunity.

For the first are instituted lectures on Anatomy, not a few, but by hundreds; lectures on the Principles and Practice of Medicine, lectures on the Principles and Practice of Surgery, on both not a few, but by hundreds; lectures on Forensic Medicine, including Toxicology and Toxicological Analysis; lectures on *Materia Medica*. Every one of these things, by the very names they bear, claim or seem to claim their right of place in medical education.

Then there are lectures on Chemistry as a science, lectures on Botany as a science.

But Physiology remains to be mentioned, which, in the hands of a powerful, accomplished, and popular teacher, may be made everything of, and so win the student's mind away from all other teaching. The subject itself is infinite. The difficulty must always be to keep it within bounds, and make it the subject of a separate course. There are physiologies animal and vegetable, and physiologies *de aere, aquis et locis*—physiologies that may be made to comprise the whole world within us and the whole world without us.

On most of these subjects, it is not thought enough to specify the number of lectures to be attended: prizes are offered annually to stimulate competition, and are given to the most proficient in all of them. The sum of the knowledge which they contain implies a respectable start on the way to omniscience; and the student who, with thus much in his head, can still find room for a trifle of medicine and surgery, may be almost said to know a little of everything. Now I am convinced that none are helped to become good practitioners by this discipline; that the majority are hindered by it; and those who, having gone through it, turn out good practitioners nevertheless, become such in spite of it.

But where is the excess? What are the things extrinsic that can be pared off? Many a great chemist, a great botanist, or a great master of analysis, may be found to contend that what he has to teach is indispensable to the medical student; that the principles of his science are at the root of all rational practice. But beware of great authorities. They have a tyrannous way with them. They make common sense afraid to stand up and say what it knows to be right. Believe them, and they would commit the student to the whole circle of the sciences, and make him unhappy because he finds himself unable to follow his leaders. Surely there must be some shorter and easier way than theirs of making physicians and surgeons, and yet a safe way withal, or it will fare badly with mankind.

Now I have my own little suggestion to offer. It is a humble one, but not unbecoming wise men to adopt: a humble one, but bringing no loss of glory to the profession in the end. Have a very great care, then, of your medical student, and how you guide him at starting. Now especially is the time for good advice, if you have any to give. Take him now into the wards of the hospital at once; fit or unfit, as people reckon fitness, thither take him. He may have learnt all sorts of things already, or he may scarcely have learnt anything at all. But as soon as you have become his masters, thither take him, and there let him remain and make it for the present his sole field of observation and thought, or

curiosity, and have a guard that the best things from without do not reach him there, to his hindrance or destruction.

When you would teach a man to read, you do not begin with the history of letters; where and by whom letters were first invented, and where and by whom the printing-press; but you leap over a century or two without remorse, and put a dainty alphabet into his hand, and tell him something about vowels and consonants. But about labials, dentals, and gutturals, the less said the better. Lips, teeth, and throat make their own division of labour, and settle matters for themselves wonderfully. People do not come to read by being taught the philosophy of reading, but simply by doing the thing itself, simply by reading. So, if you would teach a man medicine and its practice, you must not begin with half a dozen philosophies, or with any philosophy at all, but you must put, as it were, his alphabet into his hand at once, and bid him learn its simple characters one by one, and then help him to join them together and make the best sense of them he can.

Well! but your student in the wards of the hospital is considered to be making acquaintance with diseases, specialising them, learning their right names, discerning between this and that, and getting up his diagnostics and nosologies. Verily this is a good deal more than learning his alphabet, and a good deal beyond it. For technical names and diagnostics and nosologies import the finish and last polish of his perfect work; yet great stress is laid upon them, enough to imply that the common run of individual cases can be finished and polished off in this fashion. But go into hospitals, and see the facts how they stand. There you find diseases mature and complete; and there diseases (and plenty of them) immature and incomplete, and scarcely deserving the names they bear: diseases in their embryo, their travail, their gestation, now coming to the birth, now ending in abortions—their course broken in upon, and their events determined by accident. Truly there are things in these hospital wards better worth learning than the diseases themselves—more simple, more primitive, more alphabetical (if you please), and yet more profound—things which are a key to the very diseases and their agreements and discordances; a key to their remedies, too, their successes, and their failures, and to discrepancies of their effects inexplicable without them; which tell why pneumonia (so called) is now cured by bleeding, and now by brandy. These primitive, simpler, and more profound truths are now what they have been always. They are the common ground upon which the great physicians of distant times, Sydenham, Heberden, and the President of the College that now is, would be found to think and act alike, and upon which (were it possible) they could meet and consult together to-morrow, and treat, as well as they could be treated, most of the great emergencies of diseases. But what are the things? They are pains; they are heat and cold, and sleep and wakefulness; and they are the pulse: all easily read, but all vital in their details, and vital comprehensively, including the sentient energy of the nerves and vital motive energy of the blood-vessels throughout the body. In a word, they are the immaterialism of disease, with which a man can only gain acquaintance by constant and familiar converse.

So unlike all other things in the world are medicine and the practice of it, that indications of treatment (simple things, but great mysteries) need to be pointed out to the most intelligent student with the care and patience that you would teach his letters to a child. But, in order to this, you must have the right men for physicians to hospitals, and they must choose the right men for their clinical clerks. And thus there will be gradations of clinical teaching and learning, free and unforced, which every man will look back upon in life as the best and soundest part of his professional education.

Now your student, who is to begin in the wards of the hospital, must continue to frequent them with the mind of a learner during all the years of his pupilage.

But lectures, courses of lectures on medicine or surgery (for of these only would I venture to speak), when are they to come? Not too soon. Not until the student, from such experience as he has, can exercise some judgment upon the subject matter of what he hears. Unquestionably, there is great profit to be had from lectures, if they come in at their proper place, and are properly used. Still, mixed with their good, there is some hazard of evil. They are a temptation to the more contemplative mind to learn diseases by the study of models, rather than of the things themselves. They tend to divorce him from the workshop and the chips and fragments and rude designs that lie about within it, and introduce him into a room swept and garnished and hung round with masterpieces for his contemplation. This may be all very well for gentlemen who patronise the arts; but this is not the way to make the artist.

Here I must stop. The whole subject of medical education is far too large and difficult for me, and I confess myself not up to it; but it is exciting at the present moment a just and serious and painful interest, and presses hard upon the wisdom of those who, fully aware of its past mistakes, are expected to decide what henceforth it shall be. There is one part, however, of medical education in which I was once actively engaged, and had come to hold strong beliefs. Upon it, at least, I thought I might venture to touch. But what I had to say must be said quickly, and now or never. I must strike while the iron is hot, while the interest of the subject is at its glow. Let this be my excuse for meddling with the subject at all, and plead my pardon if the "word or two" and "hint or two" which I have presumed to give my betters should be wide of the mark.

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TO DISTINGUISH ARTIFICIALLY COLOURED WINES. Blume gives the following simple test. Saturate a piece of bread crumb with the wine to be tested, and place it in a plate full of water. If the wine be artificially coloured, the water very soon becomes coloured reddish violet, but if the colouring matter is natural, the water, after a quarter or half an hour, is but very little coloured, and a slight opalescence only is perceptible. The test depends upon the difficult solubility of the real colouring matters of wine in water free from tartaric acid. (*Elsner's Chem. Techn. Mittheilungen*, 1862-1863.)